Were every hair of every tress
  Which you, no doubt, imagine mine,
Drawn towards you with its breaking stress,
  A stress, say, of a megadyne,
That tension I would sooner suffer
Than meet again with such a duffer! $\frac{dp}{dt}$

NOTES

WE understand that the Admiralty have appointed a committee, consisting of Admiral Sir Leopold M'Clintock, Admiral Sherard Osborn, Admiral Richards, and Capt. Evans, the Hydrographer, to advise them on all points connected with the equipment and *personnel* of the Arctic Expedition. The first point has been to select suitable vessels, and last week Sir Leopold M'Clintock proceeded to the northern ports to examine the whalers. It is probable that one steam whaler will be purchased, while a vessel of the *Lyra* class may perhaps be selected for the advanced ship. Both vessels will be strengthened and fitted out at Portsmouth, under the immediate superintendence of Sir Leopold M'Clintock. It is a most fortunate circumstance that the great arctic explorer, the discoverer of arctic sledge travelling, should be Admiral-Superintendent at this juncture, and that the expedition should have the advantage of being equipped, in all its details, under his vigilant supervision. The next point will be the selection of a leader, and we believe that the decision will be formed within a few days. Little doubt is entertained among naval men that the choice will fall upon Commander A. H. Markham, who acquired a knowledge of ice navigation during a cruise in Baffin's Bay and Prince Regent's Inlet last year, and who is universally considered to have all the qualifications for that important post. The number of volunteers among lieutenants, sub-lieutenants, and men is extraordinary, and is daily increasing. The committee will certainly have a wide field for selection.

IT is authoritatively announced that the reward of 2,000*l.* offered some years ago by Lady Franklin for the recovery of the official records of her husband's expedition still holds, and that over and above she will be prepared to remunerate anyone who may succeed in recovering them for any outlay to which his research may subject him.

A PHYSICAL Observatory is soon to be established in Paris, and a recent vote of the Academy appointing a commission to report on the subject will not be lost. It is said that M. Janssen is to be the head of the establishment, in which solar photography will be practised on a large scale. It is also supposed that the Observatory is to be ready by the time M. Janssen returns from Yokohama with the instruments.

M. BERTRAND has been elected perpetual secretary of the Paris Academy of Science by thirty-three votes out of forty-nine. M. Faye had only thirteen votes; the other three were lost. The Chair of the Institute of which M. Bertrand is the president being thus vacated, the vice-president, M. Fremy, will preside over the sittings; M. Bertrand being moreover a member of the Section of Geometry, an election to that section will take place very shortly. He will probably be succeeded by M. Mannheim, his pupil, now a professor in the Polytechnic School and a captain in the Engineers' service. M. Mannheim is well known in England as a mathematician.

THE recent election of a perpetual secretary of the Paris Academy of Sciences is the first serious competition since Condorcet was elected to fill the place vacated by the voluntary retirement of De Faudry. It is curious that the Condorcet election took place just a century ago, in 1774. Condorcet was supported by D'Alembert and opposed by Buffon, who supported Bailly, the astronomer. The contest of 1874 is between an astronomer, Faye, and a geometer, Bertrand. Condorcet was regarded as a geometer, as he had written a work on differential calculus. The academical regulations state that at least two-thirds of the members of the Academy must take part in a scrutiny, in order that it may be deemed valid.

THE death is announced, on the 10th inst., of Dr. Friedrich Rochleder, Professor of Chemistry in the University of Vienna.

WE are glad to notice that Mrs. Annie Mather, of Longridge House, near Berwick-on-Tweed, has handed over to the treasurer of the Newcastle College of Physical Science the munificent sum of 1,000*l.* for the founding of a scholarship or scholarships, to be called "The Charles Mather Scholarship," and to be attached to the College in perpetuity. The details of the examination and the mode of carrying out the bequest are left to be settled by the Council, subject to the approval of the donor or her advisers.

H.R.H. the Duke of Edinburgh has consented to take the chair at a meeting to be held in London on Dec. 7, in promotion of the scheme for the extension of the buildings of Edinburgh University.

THE Council of Marlborough College has recently decided to erect a laboratory and science lecture-room. The ground-floor of the building will contain the museum of the Marlborough College Natural History Society. Mr. Street will be the architect.

THE German Emperor has conferred on Dr. Samuel Birch, of the British Museum, the Order of the Crown, Second Class, in recognition of Dr. Birch's presidency of the late International Congress of Orientalists.

AN inscription has recently been set up at Galluzzo, near Florence, in memory of the late Prof. Donati, who died of cholera rather more than a year ago on his return from the Meteorological Congress at Vienna. In consequence of the strict sanitary laws in force within the city of Florence, the body was buried privately. The interment took place at night, in the small Campo Santo attached to the church of Galluzzo, not far from the new Observatory at Arcetri, in the erection of which the last three years of his life had been expended. The Commune of Galluzzo were anxious to do honour to the illustrious man, and have, at the public expense, erected a marble tablet with the inscription—

GIAMBATTISTA DONATI
Astronomo
nato in Pisa il xvi. di Decembre MDCCCXXVI
scroprì più Comete
studiò con lo spettroscopio perfezionato da lui
la luce stellare
ne chiarì il fenomeno della scintillazione
ebbe il concetto di una meteorologia cosmica
Curò l'edificazione del nuovo Osservatorio
su la collina di Arcetri illustrata da Galileo
del quale continuava la bella scuola
quando immatura morte il xx. di Sett. MDCCCLXXIII
lo chiuse nell' angusta fossa
che il Comune del Galluzzo
onorò di questa Memoria

On the day appointed for its inauguration the rain poured in torrents, but the church of Galluzzo was crowded during the performance of a Requiem Mass, after which the congregation stood around the tomb, where speeches were made, and representatives from the Observatories of Padua and Rome presented garlands of flowers.

AT the meeting of the Geographical Society on Monday, Sir Henry Rawlinson, after expressing his gratification at the decision of Government with regard to an Arctic Expedition, stated that he had that day heard that Col. Gordon was in Gondokoro on Sept. 5, and that he then had the sections of his steamer destined to navigate the Albert N'yanza at Mount Regiaf, below the falls, having full confidence of getting them transported to the smooth waters of the Upper Nile, beyond the falls, in a fortnight from that time.

We are glad to hear that 420 teachers have this year joined the classes of the Charterhouse Teachers' School of Science.

Mr. Bellamy, F.R.C.S, commenced his course on Artistic Anatomy, at South Kensington, on Tuesday the 17th inst.

The Royal Irish Academy has just published No. 9, vol. i., Ser. ii. of its Proceedings, which concludes the volume. This number contains eighteen papers read before the Academy during the last session, among which are several by Prof. Macalister on the myology of the gorilla, the civet, the tayra, and on the anatomy of the rare *Chæropsis libernensis* and *Aonyx leptonyx;* by Mr. Mackintosh, on the myology of the genus Bradypus; by Messrs. Draper and Moss, on the forms of selenium; and by Mr. Hardman, on a substitution of zinc for magnesium in minerals. It is proposed for the future to publish the Scientific Proceedings of the Academy three times each year. The part to appear January 1875, to contain the Proceedings for November and December 1874; that in April 1875, the Proceedings for January, February, and March 1875; and that in July 1875, the remaining portion of the business for the session 1874—75. The Minutes of the Proceedings, to be published each month during the session, will contain the titles of papers read, list of donations, &c.

We have just received an important memoir on the embryology of the Ctenophoræ, by Prof. Alexander Agassiz. Although read before the American Academy of Arts and Sciences in November 1873, this memoir was only published at Cambridge, Mass., early in September last, giving a *résumé* of what was known on the subject, and calling attention to the importance of Allman's contributions to this subject, which, from the want of figures, have been too frequently overlooked. Agassiz describes the different stages in the development of *Idyia roseola,* and when discussing the systematic position of the Ctenophoræ, which can now, from our greater knowledge of their embryology, be treated of more intelligently, he proceeds to criticise "the special interpretation of fanciful affinities and homologies existing only in forms conjured up by Ernst Hæckel's vivid imagination," and concludes that Hæckel's "assumptions, which form the basis of his Gastræa theory, are totally unsupported, and the theory must take its place by the side of other physio-philosophical systems."

The great success of the season in the theatres of Paris is the "Tour du Monde in Eighty Days," a scientific play, written by M. Jules Verne, well known as the author of several fantastical scientific productions. Boxes are let many days in advance and sold at more than double the usual price.

The *Journal of the Society of Arts* states that M. Mège Mouriès, after analysing butter, has succeeded in making it synthetically. This imitation butter, recognised by the Conseil d'Hygiène as indistinguishable from real butter, is finding its way into the Paris markets at half the present price of real butter.

We have received Part II. of vol. vii. of the *Transactions of the Scottish Arboricultural Society,* which contains a number of valuable papers connected with arboriculture.

M. Alix has taken his degree of Doctor by sustaining a *thèse* on the Vol des Oiseaux (the flight of birds). The *thèse* is a large 8vo volume of 380 closely-printed pages, with many plates, and will be published by Victor Mollaux.

Mr. A. W. Chase communicates an interesting fact in connection with an account of the destruction of fish on the Oregon coast by means of the explosion of nitro-glycerine. In this he remarks that some of the fish are killed outright by the explosion, while others appear to be simply stunned; and that in several instances, after having fish apparently dead for half an hour, scaled, the intestines taken out, and prepared for cooking (the head, however, remaining on the body), they began to flop around as briskly as if just taken from the water.

The Municipal Council of Paris has voted that a commemorative medal be given to each aëronaut who conducted a balloon out of Paris during the siege.

The number of adult pupils who are attending the evening lectures established by the Municipal Council of Paris is 14,000, and it is expected that the number will rise to 20,000, in 1875. The number of candidates for the diploma of teacher or keeper of *Salle d'Asyle* is also rapidly enlarging. Last year it was 2,564; this year it is 3,100, both numbers including females. The number of candidates for a certificate of *études primaires* (honours of primary course of education) was 5,028.

Private letters from America announce that the proprietors of the *Great Eastern* are engaged in discussing a most extraordinary proposal. The great ship, it is said, is to be anchored in Philadelphia Harbour during the Centennial Exhibition, and to be made a great floating hotel, where 5,000 persons can be comfortably accommodated.

Siege balloons have been given by the Postal administration to the French War Office, which has established a Balloon Committee. The head of that institution is Col. Laussedat, of the National Engineers. The balloons are now being repaired at the Hôtel des Invalides, by Jules Godard, the youngest member of the celebrated Godard aëronmautical family.

M. Oppolzer has been appointed an Officer in the Legion of Honour for his share in the determination of the Vienna and Bregenz longitude. Two astronomers of the Paris Observatory have been promoted to the Francis-Joseph Order for the same work, one of them having been knighted, and the other, who was already a knight, having been made an Officer.

At the special meeting of the Council of the Victoria (Philosophical) Institute, held preparatory to the commencement of the session in December, Mr. C. Brooke, F.R.S., in the chair, the election of twenty-five members took place. It was stated that papers by the following authors would be announced in a few days:—Professors Challis, Birks, Palmer, Nicholson, and J. W. Dawson; Mr. C. Brooke, F.R.S., Mr. J. Howard, F.R.S., Dr. C. B. Radcliffe, and the Rev. Dr. Irons.

Principal Tulloch, of St. Andrew's University (N.B.), the *British Medical Journal* states, in a recent conference with Provost Cox and Mr. Henderson of Dundee, on a proposal to erect a College for that town, to be affiliated with the University, decided that, for the present, the scheme was impracticable on account of the enormous expense which it would entail, 150,000*l.* at least. In the meantime, courses of lectures under the auspices of the University were arranged to be delivered in Dundee.

We are pleased to see that the *Feuille des Jeunes Naturalistes,* a little scientific serial which was noticed in these columns on its first appearance in 1870, has entered on its fifth year of existence. Founded by M. Ernest Dollfus, of Mulhouse, an enthusiastic young naturalist of eighteen, it has been maintained with unflagging spirit, has met with fair commercial success, and has carried a love for natural history into many French schools, eliciting from some of the older pupils very creditable papers. The number before us contains a touching biography of M. Ernest Dollfus, who died last year. We heartily wish success to a practical and persevering enterprise.

THE new and revised edition of Griffith and Henfrey's "Micrographic Dictionary" is advancing rapidly towards completion, three numbers having been published during the last three months, bringing the work down as far as "Skin;" and it is announced that the publication will now in all probability be continued without intermission till its completion. This is most desirable, considering, in the present state of science, how short a time it takes for a work of this kind to become out of date, and it is already three years since the commencement of the publication of this edition.

A MOVEMENT is on foot at the Cape of Good Hope to introduce salmon and trout into the rivers of that colony; and subscriptions are being made with the view of practically testing the idea. The only obstacle seems to be in the temperature of the water. The latitude of the Cape may be roughly taken at from 28° to 35° S., which is just within the Tropic of Capricorn, and about the same as New South Wales. These latitudes are much lower than the corresponding portions of the northern hemisphere in which trout, and specially salmon, are generally found, and we doubt whether the climate would be found suitable for them. No part of New Zealand is further north than about 35° S.; and it has not yet been proved that salmon will live in the warmer parts of that country. Still, the practical test will be in the transport of salmon to the Cape, and if the experiment succeeds, the acquisition will be well worth the risk.

THERE was a shock of earthquake at Innsprück last Thursday.

STRONG shocks of earthquake were felt on the morning of the 16th inst. at Smyrna.

WE hear that Mr. Alexander Agassiz has just started on an expedition of several months' duration to South America, with the object of exploring and investigating the natural history of Lake Titicaca, and collecting antiquities from the surrounding country for the Peabody Museum.

WE are informed that in the newly-disposed Indian Museum Dr. Forbes Watson is appointed director; Dr. Birwood, late honorary secretary to the Victoria and Albert Museum, Curator of the Museum and Assistant Reporter on the Products of India; and Mr. F. Moore, who, in conjunction with the late Dr. Horsfield, prepared the catalogue of the mammals and birds of the Museum when it belonged to the East India Company, Assistant Curator together with Dr. Cooke and Lieut. Royle.

THE *Daily Telegraph* of Tuesday contains a long and interesting letter, dated Zanzibar, Oct. 19, from Mr. H. M. Stanley, the joint commissioner of that paper and the *New York Herald* to East Africa, principally in connection with the suppression of the slave trade. The letter consists mainly of an account of Mr. Stanley's journey up one of the ten mouths of the river Rufigi as far as Kisu, fifty miles from the sea. Mr. Stanley gives a glowing account of the river and the country through which it flows, and thinks its value, from a commercial point of view, cannot be too highly estimated. He corrects the accounts of previous travellers, and a map of the delta accompanying the letter professes for the first time to lay down correctly the various channels by which the river discharges its waters.

THE additions to the Zoological Society's Gardens during the past week include two Muntjacs (*Cervulus*?) from Formosa, presented by Mr. W. P. Galton; a Common Kestrel (*Tinnunculus alaudarius*), European, presented by Miss M. Truefitt; a Roseate Cockatoo (*Cacatua roseicapilla*) from Australia, presented by Mr. H. I. Aveling; a Pomerine Skua (*Lestris pomarinus*), European, new to the collection, purchased; a Black-eared Marmoset (*Hapale penicillata*) from South-east Brazil, deposited.

SCIENTIFIC SERIALS

THE *Transactions of the Linnean Society*, vol. xxx., part 2, is almost entirely occupied by Mr. Miers' paper On the Lecythidaceæ. The author prefers Lindley's proposal of erecting this group into a distinct order rather than making it a sub-tribe of Barringtonieæ, itself a tribe of Myrtaceæ, as Bentham and Hooker have done in their "Genera Plantarum." The order will then be characterised by its alternate impunctate leaves, epigynous stamens, petaloid appendage to disc on which the stamens are seated, and peculiar fruits and seeds very different from those of Myrtaceæ, and will consist of the following twelve genera:—*Gustavia*, Linn. (2 sp.); *Couroupita*, Aubl. (9 sp.); *Bertholletia*, H. and Bonpl. (2 sp.); *Lecythis*, Linn. (42 sp.); *Chytroma*, nov. gen. (Lecythis in parte auct., 25 sp.); *Eschweilera*, Mart. (46 sp.); *Jugastrum*, nov. gen. (Lecythis in parte auct., 6 sp.); *Couratari*, Aubl. (8 sp.); *Cariniana*, Casar. (7 sp.); *Allantoma*, nov. gen. (12 sp.); *Grias*, Linn. (4 sp.); and *Cercophora*, nov. gen. (1 sp.) Many of the species are now described for the first time, and the paper is illustrated by thirty-three beautiful plates, illustrative of each of the genera, and of the fruits and seeds of a large number of the species. The part contains also the Rev. O. P. Cambridge's "Systematic List of the Spiders at present known to inhabit Great Britain and Ireland:" 78 genera and 457 species.

THE *Journal of Botany* for the four months, August to November, 1874, contains the following among the more important original papers:—In descriptive phanerogamic botany, Mr. W. P. Hiern contributes Notes on Ebenaceæ, with description of a new species; Dr. H. F. Hance, a description of some Asiatic Corylaceæ; a paper On a small collection of plants from Kinkiang, and another On three new Chinese *Calami*; Mr. J. G. Baker, a paper On the genus *Androcymbium* (Colchicaceæ), with description of seven new species; a description of a new species of *Heleniopsis* (Colchicaceæ) from Formosa; and an article On the *Alliurus* of India, China, and Japan; and Dr. J. Müller describes a number of new Euphorbiaceæ collected by Dr. Lorenz in the Argentine Republic.—In cryptogamic botany, Mr. E. M. Holmes describes and draws a very rare British moss, *Dicranum flagellare*; the Rev. J. M. Crombie also describes and draws a new genus of lichens, *Phycographa*, Nyl., and gives a valuable revision of the British Collemacei.—In geographical and local botany, Miss E. Hodgson gives a sketch of the botany of North or Lake Lancashire; Mr. J. F. Duthie a very interesting paper On the botany of the Maltese Islands in 1874; Mr. T. R. Archer Briggs, Notes on some plants of the neighbourhood of Plymouth; and the editor completes his Botanical Bibliography of the British Counties.—In each number there are also, in addition, a number of short notes and queries, extracts and abstracts of important papers published elsewhere, and reviews of books. The editor continues the extremely useful practice of giving a list of the botanical papers in each month's home and foreign journals.

Astronomische Nachrichten, Nos. 2,010 and 2,011, contain a paper by H. J. H. Groneman, on his theory of the aurora. He goes into the questions of the annual variation and the eleven-year period, together with its height and magnetic effects.—In No. 2,012 there is a letter from Stephen Alexander on the observation of the varying brightness of Jupiter's satellites as seen in transit, and he discusses M. Flammarion's explanation of this phenomenon.—J. G. Galle contributes a paper on the observations of the planet Flora, made by Dr. Gould and contained in this number, and discusses them with reference to their giving a value of the solar parallax.—In No. 2013, Dr. Holetschek gives an hypothetical ephemeris for the planet Peitho (118) from Oct. 7 to Nov. 12, for the purpose of recognising the same.—A. Grützmacher gives position observations of Borrelly's comet, made during August.—Dr. Holetschek has estimated the orbit of Comet I., 1871, and contributes details of the orbit. Its period seems to be 5188 years.—C. T. W. Peters gives time observations on the solar eclipse of Oct. 9, 1874.—J. H. Safford sends his computation of the orbit of Alcmene, and an ephemeris for March and April 1875.

Zeitschrift der Œsterreichischen Gesellschaft für Meteorologie, Nov. 1.—In this number we have the first part of an article by Dr. J. Hann, on the laws of change in temperature of ascending currents of air, and some of the consequences thereof. He observes that although Poisson's equation, by means of which we may reckon the loss of temperature of ascending air by expan-